What is claimed is:

**1.** A network of remote sensing node assemblies, a first and second of which each has a sensor element, the network comprising:

**(a)** each of the sensor elements adapted for immersion within a liquid environment for sensing therewithin;

**(b)** each respective one of the first and second node assemblies to comprise: a source of power for said respective node assembly, and a transducer for receiving acoustic waves transmitted from a different one of the node assemblies while immersed within said liquid environment, said transducer further adapted for emitting, for transmission through said liquid environment, sensor information collected about said liquid environment by the sensor element of said respective node assembly; and

**(c)** a third node assembly adapted for receiving and processing said sensor information acoustically transmitted from each said respective node assembly.

**2.** The network of claim 1 wherein said each respective node assembly further comprises:

**(a)** acoustic-transducer circuitry for converting said acoustic waves received by said respective node assembly, into signals; and

**(b)** a controller adapted for local processing of said signals within said respective node assembly, said local processing to comprise converting said signals into modulated signals for said emitting by said transducer.

**3.** The network of claim 2 wherein: said modulated signals are further converted into a series of voltage pulses representing an encoding of said signals; said acoustic-transducer circuitry is further adapted for amplifying said series of voltage pulses; and said transducer comprises a plurality of directional transducers.

**4.** The network of claim 2 wherein: said acoustic-transducer circuitry is further adapted for converting said modulated signals, into a series of voltage pulses which are then amplified prior to said emitting by said transducer; and said transducer comprises an omni-directional transducer.

**5.** The network of claim 2 wherein:

**(a)** said signals are electronic signals;

**(b)** said modulated signals are further converted into a series of voltage pulses; and

**(c)** said third node assembly further comprises a third-node processor adapted for said third node processing, and means for transmitting said sensor information from said third node assembly to a remote host.

**6.** The network of claim 5 wherein:

**(a)** said third node assembly further comprises an acoustic transducer adapted for said receiving while immersed in said liquid environment; and

**(b)** said means for transmitting said sensor information to said remote host is selected from the group consisting of a radio frequency (RF) wave transceiver, a fiber-optic cable, an infrared (IR) transceiver, an optical transceiver, a microwave transceiver, a connection through conductive media, and an assembly comprising a cable and a connector.

**7.** The network of claim 5 wherein:

**(a)** said converting said signals into modulated signals comprises employing a technique selected from the group consisting of On-Off Keying, Digital Pulse Interval Modulation, Phase-shift Keying, Frequency-shift Keying, Amplitude-shift Keying, Quadrature Phase-shift Keying, Quadrature Amplitude Modulation, and Multiple Frequency-shift Keying;

**(b)** each of the first and second node assembly controllers is adapted for performing said further conversion of said modulated signals into said series of voltage pulses, said series of voltage pulses being amplified prior to said emitting; and

**(c)** said processing by said third node comprises converting said sensor information acoustically received thereby, into a collection of data about said liquid environment for said transmitting to said remote host.

**8.** The network of claim 1 wherein:

**(a)** said third node assembly comprises means for transmitting said sensor information to a remote host; and

**(b)** said host is adapted for communicating with a computerized device, said computerized device comprising an interface adapted for accessing said sensor information as a compilation of sensing data.

**9.** The network of claim 8 wherein:

**(a)** said third node assembly further comprises an acoustic transducer adapted for said receiving while immersed in said liquid environment; and

**(b)** said means for transmitting said sensor information to said remote host is selected from the group consisting of a radio frequency (RF) wave transceiver, a fiber-optic cable, an infrared (IR) transceiver, an optical transceiver, a microwave transceiver, a connection through conductive media, and an assembly comprising a cable and a connector.

**10.** The network of claim 8 wherein:

**(a)** said liquid environment is an aqueous body;

**(b)** the first and second node assemblies are immersed in said aqueous body for said sensing;

**(c)** said third node assembly further comprises an acoustic transducer adapted for said receiving while immersed in said aqueous body; and

**(d)** said means for transmitting said sensor information to said remote host is adapted for operation for said transmitting when not immersed in said aqueous body.

**11.** The network of claim 8 wherein:

**(a)** said remote host comprises means for receiving said sensor information;

**(b)** said computerized device is adapted for at least partially generating said compilation of sensing data;

**(c)** said third node assembly is further adapted to, upon receiving instructions, transmitting a broadcast message to each said respective node assembly within an acoustic transmission range instructing a respective sensor element of said respective node assembly to perform said sensing; and

**(d)** said sensor information is acoustically transmitted from each said respective node assembly to said third node assembly, said third node assembly further comprises a third-node processor adapted for said third node processing.

**12.** The network of claim 11 wherein:

**(a)** said each respective node assembly further comprises: acoustic-transducer circuitry for converting said acoustic waves received by said respective node assembly, into signals; and a respective-node controller adapted for local processing of said signals within said respective node assembly, said local processing to comprise evaluating said sensor information collected about said liquid environment and further converting said signals into modulated signals for said emitting from said respective node assembly; and

**(b)** said processing by said third-node processor comprises evaluating said sensor information acoustically received by said third node assembly, for evaluation to generate a collection of data for said transmitting to said remote host.

**13.** The network of claim 8 wherein:

**(a)** said each respective node assembly further comprises respective-node controller circuitry adapted for periodic activation of the sensor element of said respective node assembly to perform said sensing; upon performing said sensing, in the event a threshold value is exceeded, a node message is emitted from said transducer of said respective node assembly comprising said sensor information;

**(b)** said third node assembly further comprises a third-node processor, said processing by said third node assembly to comprise converting said node messages received for transmitting over said means to said remote host; and

**(c)** said remote host comprises means for receiving said node messages.

**14.** The network of claim 13 further comprising a forth and fifth sensing node assembly, each having a plurality of sensor elements and a transducer for receiving acoustic waves transmitted from at least one of said different of the node assemblies while immersed in said liquid environment such that: said first and forth node assemblies are within an acoustic transmission range, respectively $r_{1\text{-}3}$ and $r_{4\text{-}3}$, of said third node assembly, said second node assembly is within an acoustic transmission range, $r_{2\text{-}1}$, of said first node assembly, and said fifth node assembly is within an acoustic transmission range, $r_{5\text{-}2}$, of said second node assembly; and wherein:

**(a)** upon receiving any said node message, said computerized device is adapted for generating an alert-type message for transmission by said remote host to

said third node assembly instructing said respective node assemblies to decrease an interval time between each successive of said periodic activation; and

**(b)** said third node assembly further comprises an acoustic transducer adapted for said receiving of said node messages and transmitting said instructions to said respective node assemblies.

**15.** The network of claim 8 wherein:

**(a)** said processing by said third node comprises converting said sensor information acoustically received thereby, for evaluation to generate a collection of data for said transmitting to said remote host;

**(b)** said remote host comprises means for receiving said collection of data; and

**(c)** said computerized device is adapted for at least partially generating said compilation of sensing data utilizing said collection of data.

**16.** A network of remote sensing node assemblies, a first and second of which each has a first and second sensor element, the network comprising:

**(a)** each of the first sensor elements of the first and second node assemblies adapted for immersion within a liquid environment for sensing therewithin;

**(b)** each of the second sensor elements of the first and second node assemblies adapted for collecting sensing information about a non-liquid environment;

**(b)** each respective one of the first and second node assemblies to comprise: a source of power for said respective node assembly; a transducer for receiving acoustic waves transmitted from a different one of the node assemblies while immersed within said liquid environment, said transducer further adapted for emitting, for transmission through said liquid environment, sensor information collected about said liquid and non-liquid environments of said respective node assembly, said transducer comprising an acoustic receiver and an acoustic transmitter; and an anchor having a releasable connection to a housing for said first and second sensor elements; and

**(c)** a third node assembly adapted for receiving said sensor information acoustically transmitted from each said respective node assembly.

17. A method of transmitting information collected about a liquid environment utilizing a network comprising at least a first and second node assembly each comprising a sensor element, the method comprising the steps of:

(a) converting sensing information collected by the sensor elements while immersed within the liquid environment, into modulated signals;

(b) acoustically emitting from each of the node assemblies, said modulated signals through the liquid environment to a third node assembly of the network; and

(c) receiving said modulated signals as acoustic waves, at said third node for processing thereby.

18. The method of claim 17 wherein said step of converting sensing information comprises employing a technique selected from the group consisting of On-Off Keying, Digital Pulse Interval Modulation, Phase-shift Keying, Frequency-shift Keying, Amplitude-shift Keying, Quadrature Phase-shift Keying, Quadrature Amplitude Modulation, and Multiple Frequency-shift Keying; and further comprising the step of further converting said modulated signals into a series of voltage pulses prior to said step of acoustically emitting from each of the node assemblies.

19. The method of claim 17:

(a) wherein said step of acoustically emitting further comprises acoustically emitting second modulated signals through the first node assembly and on to said third node, and acoustically emitting first modulated signals to said third node;

(b) wherein said modulated signals received by said third node are processed to convert said sensing information of said modulated signals into a collection of data about the liquid environment; and

(c) further comprising, after said third node processing of said modulated signals into said collection of data, the step of transmitting said collection from said third node to a remote host.

20. The method of claim 17 wherein said modulated signals received by said third node are processed to convert said received modulated signals into electromagnetic signals having a frequency greater than 3 kHz; and further comprising, after said processing of said modulated signals at said third node, the steps of:

**(a)** transmitting said electromagnetic signals from said third node to a remote host; and

**(b)** at least partially generating a compilation of sensing data using said electromagnetic signals received by said remote host, and accessing said compilation.

**21.** The method of claim 17 wherein said modulated signals received by said third node are processed for transmission from said third node to a remote host employing means for transmitting selected from the group consisting of a radio frequency (RF) wave transceiver, a fiber-optic cable, an infrared (IR) transceiver, an optical transceiver, a microwave transceiver, a connection through conductive media, and an assembly comprising a cable and a connector; and further comprising, prior to said step of converting sensing information collected by the sensor elements, the step of broadcasting a message originating from said remote host, instructing each of the node assemblies to so collect said sensing information.

**22.** The method of claim 17 wherein:

**(a)** said collection of said sensing information is performed periodically by the sensor elements, said steps of converting said sensing information and acoustically emitting from any one of the node assemblies being performed only if a threshold sensing value for a respective sensor element is exceeded; and

**(b)** each of the first and second node assemblies has a second sensing element adapted for collecting sensing information about a non-liquid environment in proximity to the liquid environment, said step of converting sensing information further comprising converting sensing information collected by said second sensor elements while immersed in said non-liquid environment, into modulated signals;

and further comprising the step of further converting said modulated signals into a series of voltage pulses prior to said step of acoustically emitting from any of the node assemblies.

**23.** The method of claim 17 further comprising, prior to said step of converting sensing information collected by the sensor elements, the step of broadcasting a message originating from said third node, instructing each of the node assemblies to so collect said sensing information; and wherein said modulated signals received by said third node are

processed to convert said sensing information of said modulated signals into a collection of data about the liquid environment; and said step of acoustically emitting further comprises:

**(a)** acoustically emitting fifth modulated signals from a fifth node assembly through the second node assembly, then on through the first node assembly to said third node;

**(b)** acoustically emitting second modulated signals through the first node assembly to said third node;

**(c)** acoustically emitting first modulated signals to said third node; and

**(d)** acoustically emitting fourth modulated signals from a fourth node assembly to said third node.

**24.** A method of transmitting information collected about a liquid environment to a remote node location utilizing a network comprising at least a first and second node assembly each comprising a sensor element, the method comprising the steps of:

**(a)** converting sensing information collected by the sensor elements while immersed within the liquid environment, into modulated signals;

**(b)** acoustically emitting from each of the node assemblies, said modulated signals through the liquid environment to a third node assembly of the network; and

**(c)** receiving said modulated signals as acoustic waves, at said third node for conversion into electromagnetic signals for transmission therefrom to the remote node.

**25.** A computer executable program code on a computer readable storage medium for transmitting information collected about a liquid environment utilizing a network comprising at least a first and second node assembly each comprising a sensor element, the program code comprising:

**(a)** a first program sub-code adapted for operation at each respective of the node assemblies instructing said respective node assembly to convert sensing information collected while the sensor element of said respective node assembly is immersed within the liquid environment, into modulated signals;

**(b)** a second program sub-code adapted for operation at each said respective node assembly instructing said respective node assembly to acoustically emit said modulated signals through the liquid environment to a third node assembly of the network; and

(c) a third program sub-code for instructing said third node to process said modulated signals acoustically received.

**26.** The program code of claim 25 wherein said first program sub-code comprises instructions for further converting said modulated signals into a series of voltage pulses prior to said acoustically emitting from said respective node assembly; and further comprising a fourth program sub-code for instructing said third node to perform said processing, said processing comprising converting any said modulated signals received by said third node into electromagnetic signals for transmission to a remote host.

**27.** The program code of claim 26 further comprising:

(a) an initial program sub-code instructing said third node to transmit a broadcast message to each said respective node assembly to perform said collection of said sensing information by respective of the sensor elements;

(b) a fifth program sub-code for instructing said remote host to at least partially generate a compilation of sensing data using said electromagnetic signals received; and wherein:

(c) the network further comprises fourth and fifth node assemblies each having a sensor element;

(d) said second program sub-code adapted for operation at said fifth node assembly further comprises instructions for acoustically emitting said modulated signals originating at said fifth node assembly to the second node assembly;

(e) said second program sub-code adapted for operation at said second node assembly further comprises instructions for acoustically emitting said modulated signals originating at said fifth node assembly from said second node assembly to the first node assembly; and

(f) said second program sub-code adapted for operation at said first node assembly further comprises instructions for acoustically emitting said modulated signals originating at said fifth node assembly from said first node assembly to said third node.

**28.** A computer executable program code on a computer readable storage medium for transmitting information collected about a liquid environment to a remote node location

utilizing a network comprising at least a first and second node assembly each comprising a sensor element, the program code comprising:

**(a)** a first program sub-code adapted for operation at each respective of the node assemblies instructing said respective node assembly to convert sensing information collected while the sensor element of said respective node assembly is immersed within the liquid environment, into modulated signals;

**(b)** a second program sub-code adapted for operation at each said respective node assembly instructing said respective node assembly to acoustically emit said modulated signals through the liquid environment to a third node assembly of the network; and

**(c)** a third program sub-code for instructing said third node to process said modulated signals acoustically received by converting said modulated signals into electromagnetic signals for transmission to the remote node.

**29.** The program code of Claim 28 wherein said first program sub-code comprises instructions for further converting said modulated signals into a series of voltage pulses prior to said acoustically emitting from said respective node assembly; and further comprising a fourth program sub-code for instructing the remote node to generate a compilation of sensing data using said electromagnetic signals received by the remote node, for use in connection with operation of a user-interface at said remote node location.